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FUNERAL IN VENICE
By Gustave Brion

BULLETIN AND RECORD

ART NEWS SECTION OF BRUSH AND PENCIL

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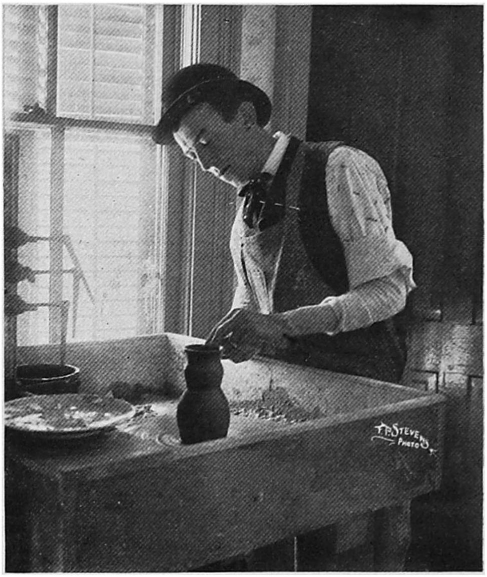
THE ART INDUSTRIES OF AMERICA—II

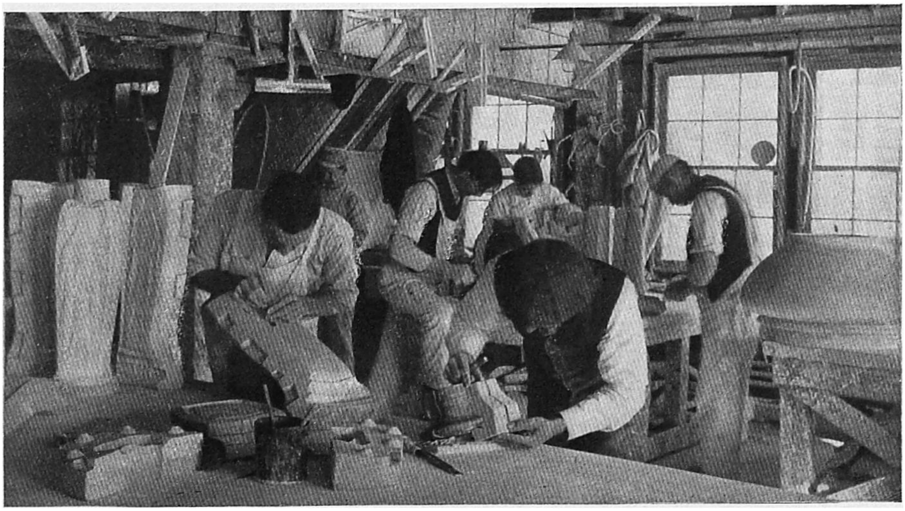
THE MAKING OF POTTERY

One of the youngest, as it is certainly one of the most progressive, of the art industries of America is the making of pottery. Originally an importation from Europe, and enthralled for years by the traditions and practices of the Old World, it at last, about 1880, threw off all hampering shackles, and set out on a career that has been little less than phenomenal. The plodding imitator of the early days became an ardent investigator, a searcher for new materials, an inventor of effective machinery, a student of original color harmonies, a designer of unhackneyed ornamentation. As a consequence of this awakening, the product of the American pottery leads the world—I am speaking, of course, of the work that may distinctively be called art ware—and it is no groundless prophecy to say that the developments of the next quarter of a century will eclipse those of the last. No abatement of interest may be expected.



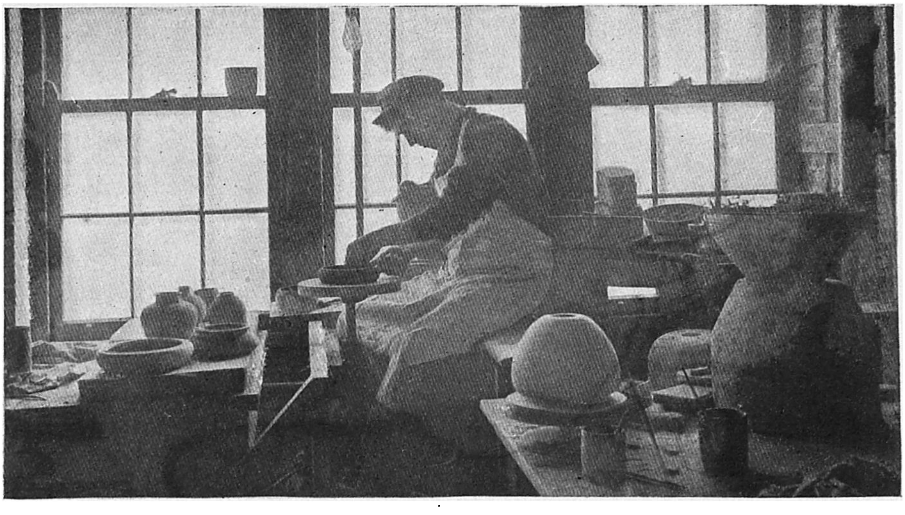
POTTER AT WORK

We have to-day many wares that are eagerly sought after by connoisseurs, and new types or kinds of work are constantly being turned out. What has been accomplished thus far has been done mainly by private enterprise. The importance of the field, however, has been duly recognized, and many of our public institutions are devoting especial attention to pottery. Organized effort, moreover, is being made to disseminate the knowledge necessary for successful



MOLD MAKING IN A POTTERY

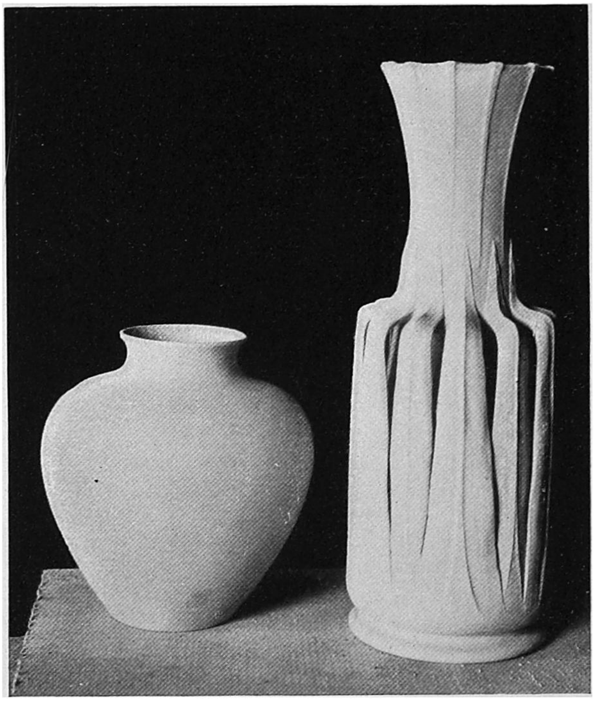
operation. Indeed, the legislatures of at least four States—New York, Ohio, New Jersey, and Iowa—have made adequate provisions for the maintenance of ceramic departments in the institutions under their jurisdiction. The accidents of the kiln—one of the most prolific sources of novel effects—are being carefully tabulated, and laboratory work of the most exact description is being done in a painstaking way, with a view to discovering new qualities



HAND THROWING OF POTTERY

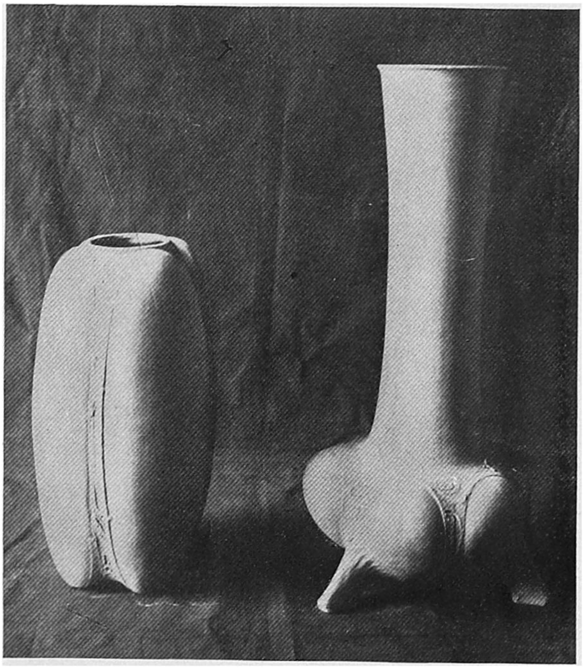
or combinations of clays for the potter's wheel or mold. Thus the freaks of chance and the carefully planned experiments of intelligent workers conspire as never before toward the development of art pottery.

Nor has the extent of the industry been less marked. Art potteries are in operation to-day from Boston to Colorado Springs, and from New Orleans to Chicago. Of course the establishment of potteries has been in a large measure influenced by the source of material, since no pottery is made of one kind of clay exclusively, and proximity to the source of supply is an element that for economical reasons has had to be considered. Thus most of the prominent potteries are east of the Mississippi River, for the reason that the best raw material and the best facilities for manufacture are found in this district. Trenton, New Jersey, and East Liverpool, Ohio, are especially prominent in the manufacture of pottery, though Boston, Cincinnati, New Orleans, Chicago, and Colorado Springs have stepped to the fore for strictly art ware. Trenton, whose industries began in 1852, has now twenty potteries, and East Liverpool, whose interest in pottery was awakened about 1840, has twenty-one. According to the last census, the clay manufacturers of the United States numbered six thousand four hundred and twenty-three, with a product computed in value at $95,533,866. Approximately a thousand of these establishments were devoted to the production of pottery, terra-cotta, and fire-clay, and the estimated value of the pottery alone was no less than $19,789,670. This, of course, is not saying that all the pottery so listed was of the destinctive art type, but it is true



DESIGNS IN POTTERY
By W. J. Dodd

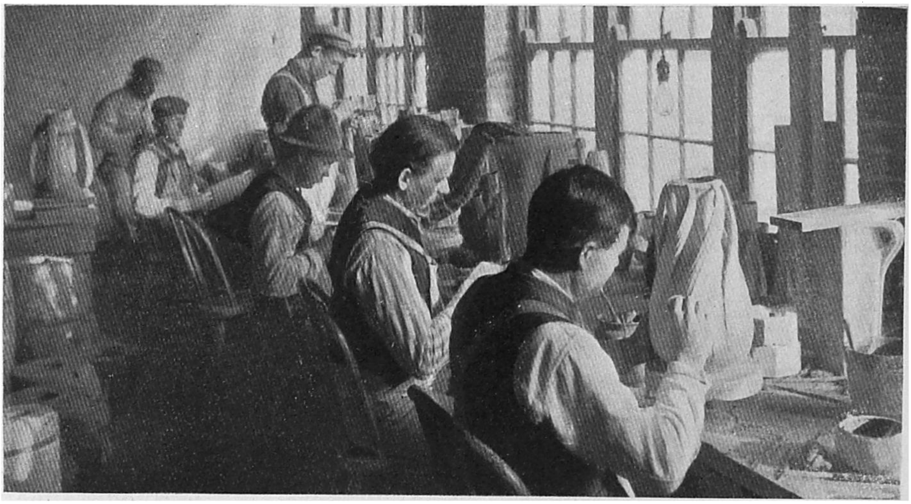
that the art pottery alone reaches an enormous figure. In view of the fact that there is as much high art in pottery as in painting, sculpture, etc., this speaks well for the growing taste of the American public for this class of product.



DESIGNS IN POTTERY
By F. Albert

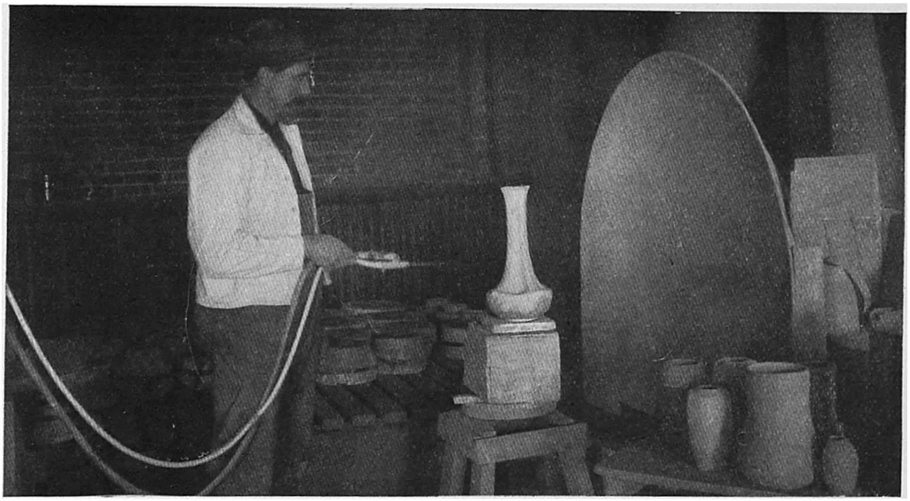
To tell the story of a piece of art pottery is not an easy matter, since it involves a more or less dry statement of fact. The artistic side is but one phase of the work. The potter's art has a supreme interest, but the charm of the actual work is largely for those who have a passion for seeing what beauty can be evolved from such unattractive material as common clay. Some years ago an article was published on pottery-making, with the alliterative heading "Mud, Mind, and Molding." The caption was exceptionally happy, but the casual reader would be inclined to put the emphasis on "mud," whereas it should be put on "mind." To know the history of one of the beautiful pieces of pottery with which we adorn our homes, one cannot do better than to follow such a piece through its various stages. This is the plan we shall follow here, selecting as our object-lesson—if such a phrase is permissible—a bit of Teco pottery on its way through the establishment of the American Terra-Cotta and Ceramic Company, at Terra Cotta, Illinois.

The first matter of importance is the securing of suitable clay. This comes from various localities, often widely remote. Good brick can be made from a single kind of clay, excavated, ground, molded, and burnt on the spot; but good pottery requires a mixture of four or more kinds of clay, and much of the quality of the product depends upon the careful selection of materials, and the judicious mixture of

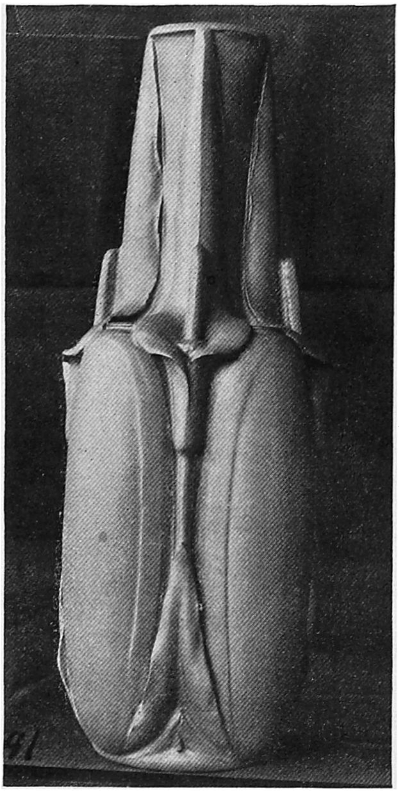


MODELING ART POTTERY

the separate ingredients. This clay is obtained by underground mining and pit-quarrying, the latter where the beds lie close to the surface of the ground, and the former where the clay deposits are deep in the earth, or where they lie, as they often do, under strata of rock or coal. To mine the clay in an ordinary pit is a simple process, requiring only the stripping off of the surface soil and the use of plow and steam shovel. Underground mining often requires no inconsider-



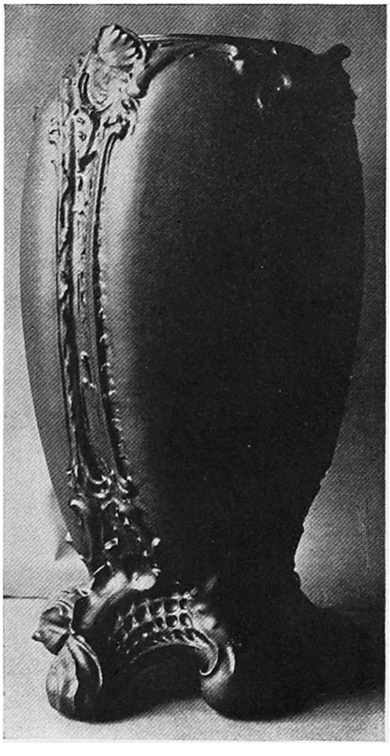
GLAZING WITH AIR-BRUSH



DESIGN IN POTTERY
By F. Albert

able engineering skill, since the location and trend of the clay deposits have to be carefully determined, and all operations have to be gauged according to conditions, frequently necessitating extensive equipments of machinery. Every potter has to select his materials so as to produce a mixture of the proper plasticity, refractoriness, and burning properties, and much of the clay thus excavated has to be shipped long distances to the factories. Few pottery plants have in their immediate vicinity more than one of the ingredients necessary for their product, and thus the mere supplying of the raw materials has grown to be a business of no uncertain or small dimensions.

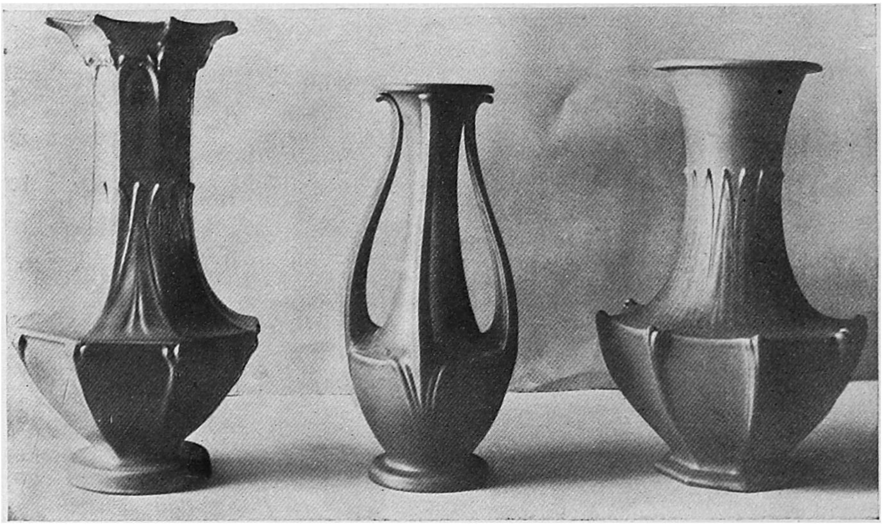
The materials from which the ordinary pottery is made, are kaolin, ball-clay, quartz, and feldspar, in proper admixture. A large percentage of the kaolins and ball-clays used is imported, the latter coming from England. The function of the ball-clay is to supply the needed plasticity, and the English material has the advantage of vitrefying at a much lower temperature than the American. Only the best qualities of clay can be used, and these must fuse at about two thousand three



DESIGN IN POTTERY
By F. Albert

hundred and fifty degrees Fahrenheit. It is essential, of course, that the clay used should burn dense without changing form. Hence the necessity of securing the proper materials, and of combining them in the proper proportions.

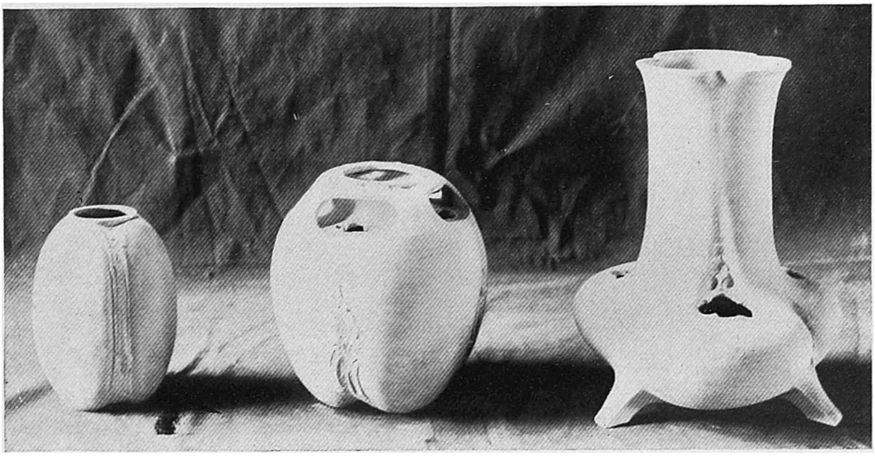
All clays after being mined have to be "slummed" or washed, in order to separate the raw material desired from foreign matter. In general terms the clay is slacked in water or disintegrated in troughs by rotating knives, the pebbles and coarser material settling to the bottom of the troughs, and the clay solution being carried off to the settling tanks. The process commonly followed for art pottery is a comparatively simple modification of this method. The ball-clay, kaolin, quartz, and feldspar pass consecutively through two blunger machines, which are essentially round tanks with central shafts equipped with wooden arms. These arms push a square block of Iceland stone or flint, and thus crush and churn the mixture till the essential materials remain in solution, while the extraneous matter sinks of its own weight to the bottom. A slip-pump then draws off this slimy liquid into a filter press, a simple contrivance consisting of iron frames supporting canvas bags. The water naturally drains off, and the kaolin is left in thin sheets on the canvas.



DESIGNS IN POTTERY
By W. J. Dodd

The next step in the making of our bit of pottery is to grind the kaolin in a ball-mill. This in principle is not essentially different from the blunger-machine, consisting of a steel cylinder half filled with Iceland stones about the size and shape of goose eggs. The cylinder, partly filled with water, revolves on an axis, and the clay is thus washed and ground, the liquid clay being conducted to a frame screen of varying fineness, from sixty to one hundred and fifty meshes to the linear inch. The "slip," as the clay is now called, passes into a receiving tank, and is now ready for use. For glazing a substance called "fritt," which is a silicate ground to an impalpable powder, is used, being usually sprayed upon the pottery by means of an air-brush, as shown in the accompanying illustration.

To-day the use of the old-time potter's wheel, or "throwing," as it is termed, is largely discontinued, though this method is sometimes employed. Most of the art pottery now made is produced by means of molds. This is more expeditious, and besides permits of the exact duplication of pieces, an obvious advantage from the standpoint of the trade. In these days it must be recognized that an art product that becomes a manufacture, as pottery must, has to have a commercial side to be a success. These molds are simply made. The design is traced on paper and reproduced in blue-print; with the blue-print as a guide, a fac-simile of the design is pricked on transparent paper, and subsequently cut out on zinc, each section of the design having its separate zinc model, or "templet." The sections of the mold are made by scraping the templets in wet plaster, the different parts of the mold being then fitted together and clamped with iron bands, the complete mold thus showing the reverse of the pattern.


DESIGNS IN POTTERY
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The rest of the process of pottery-making is comparatively simple. The liquid clay or slip is poured into the mold. The solution naturally dries on the outside first, and when a sufficient thickness has adhered to the mold the rest is poured off. As soon as permissible the bands are removed, the various sections of the mold are taken off, and the bit of pottery, barring only touching up with a modeling tool, is ready for drying. This is the finished green or raw ware. Handles and applied decorations, of course, are molded separately and attached to the green ware before drying, which is effected in a drying-room over steam-coils, and not as formerly in the open air—a practice abandoned partly to save time and partly to prevent breakage, which in early days was the cause of great loss.

After drying over night the green ware is taken to the kiln for the first or biscuit burning. These kilns are about twenty feet high and eighteen feet in diameter, with double-domed walls so as to have an outer and inner fire space. The flames, of course, do not touch the ware, and the separate pieces are carefully placed so as not to cause injury by contact in the green state. The kilns are sealed up, but the process of firing is subject to inspection by means of peepholes, which are broken open from time to time for that purpose.

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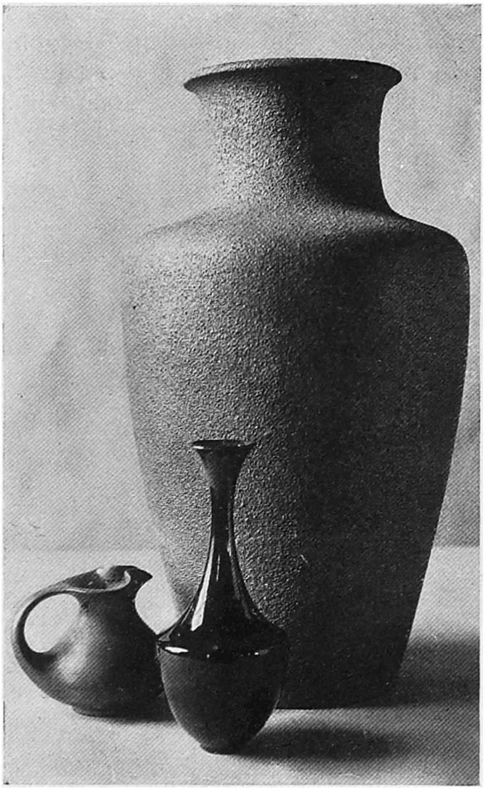
By William D. Gates

From this first burning the ware comes out as red or buff biscuit-ware. It is then ready to be sprayed with the glaze fluid, after which it is reset in the kiln for the second and final firing, which is conducted in exactly the same way as the first.

This in brief is the story of the manufacture of art pottery. The designs are the work of artists trained to the work, and the workers with most taste and talent lead in their profession and win for themselves public applause. Different colors, glazes, etc., are for the most part trade secrets and are jealously guarded. As stated above, many of the beautiful effects produced are the result of carefully planned experiment, while others are the product of fortuitous circumstance. Whether the results obtained are the outcome of accident or intention, the potter who makes a "hit" keeps his secret. With hand-decorated ware, like the well-known Rookwood pottery, we have here nothing to do—that in a broad sense is an art in itself, presupposing high artistic talent, a fine color sense, and consummate knowledge of the effects of firing on different colors. A subsequent article in this series will be devoted to this branch of pottery-making. We have had to do in the preceding pages mainly with the mechanical side of the art. We have simply followed a bit of art pottery in its various stages through the factory of the American Terra-Cotta and Ceramic Company, and it should be said in conclusion that the illustrations herewith given are from photographs furnished by that concern.


DESIGNS IN POTTERY
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To make specific mention of different art potteries now on the market, or to institute comparisons, is, as the reader will readily see, entirely foreign to the purpose of this article. Suffice it to say that native potteries—and very many wares might be mentioned—have taken rank among the potteries of the world, and will undoubtedly maintain in the future the reputation they have attained. In a word, America has the "mud"—and if it has not, American enterprise may be relied upon to get it—and American "mind" may safely be trusted to look after the "molding." The art workers of this country have evinced a wonderful ability in many lines, and in none has this been more marked than in ceramics. In what new forms and finishes this ability will evince itself it is not safe now to predict, but the future may safely be left to its own resources. ELMER C. MITCHELL.